

WRCC Tools for Drought and Climate in California

Nina Oakley
Western Regional Climate Center
Drought Tools for Media Workshop
Sept. 15 2015 – Irvine, CA



**Western Regional
Climate Center**



CNAP
California-Nevada Climate Applications Program



What is WRCC?

- One of 6 NOAA RCCs
- Based in Reno, NV
- Collect/disseminate climate data/info for West
- We have staff to help with your climate questions!



**Western Regional
Climate Center**

wrcc.dri.edu

wrcc@dri.edu



COOP station at Manzanita Lake, CA

Select WRCC Tools

- 1) West-wide Drought Tracker
 - www.wrcc.dri.edu/wwdt/
- 2) California Climate Tracker
 - www.wrcc.dri.edu/monitor/cal-mon/
- 3) California Climate Outcome Likelihood Tool
 - wrcc.dri.edu/col/
- 4) Calclim— California Climate Data Archive
 - calclim.dri.edu
- 5) Great Basin Weather and Climate Dashboard
 - gbdash.dri.edu

#1: West-wide Drought Tracker



Leave
Feedback

WestWideDroughtTracker

About

Current Maps

Archived Maps

Time Series

Download

Data Alert: WWDT now updated new
PRISM datasets. (March 2014)

Climate Product Options

Expand All | Contract All

Variable

Drought Index

Palmer Index

- PDSI ?
- Palmer Z-Index ?
- Self-Calibrated PDSI ?

SPI ?

SPEI ?

Climate

Temperature

Precipitation

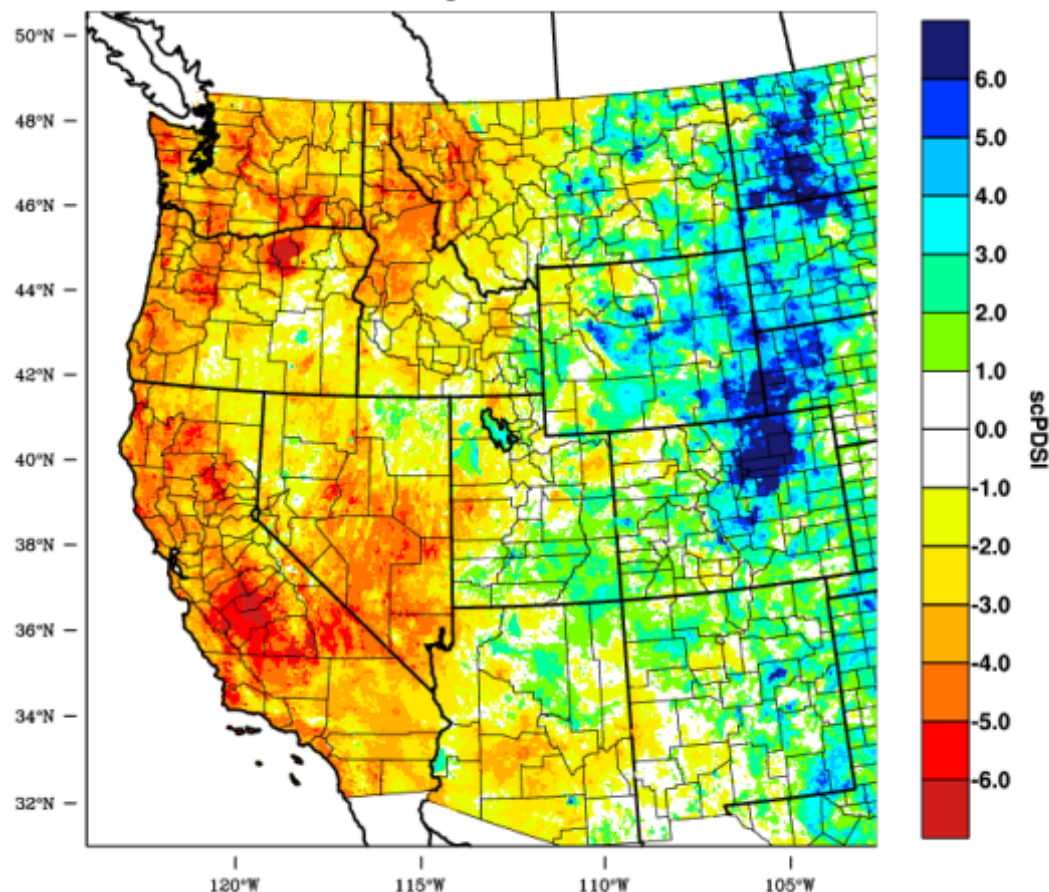
Region

- **Western US**
- Southwest US
- Northwest US
- Arizona
- California
- Colorado
- Idaho
- Montana
- Nevada
- New Mexico
- Oregon
- Utah
- Washington
- Wyoming
- United States

Current Product:
PRISM > Self-Calibrated PDSI > Western US

Western United States - Self Calibrated PDSI

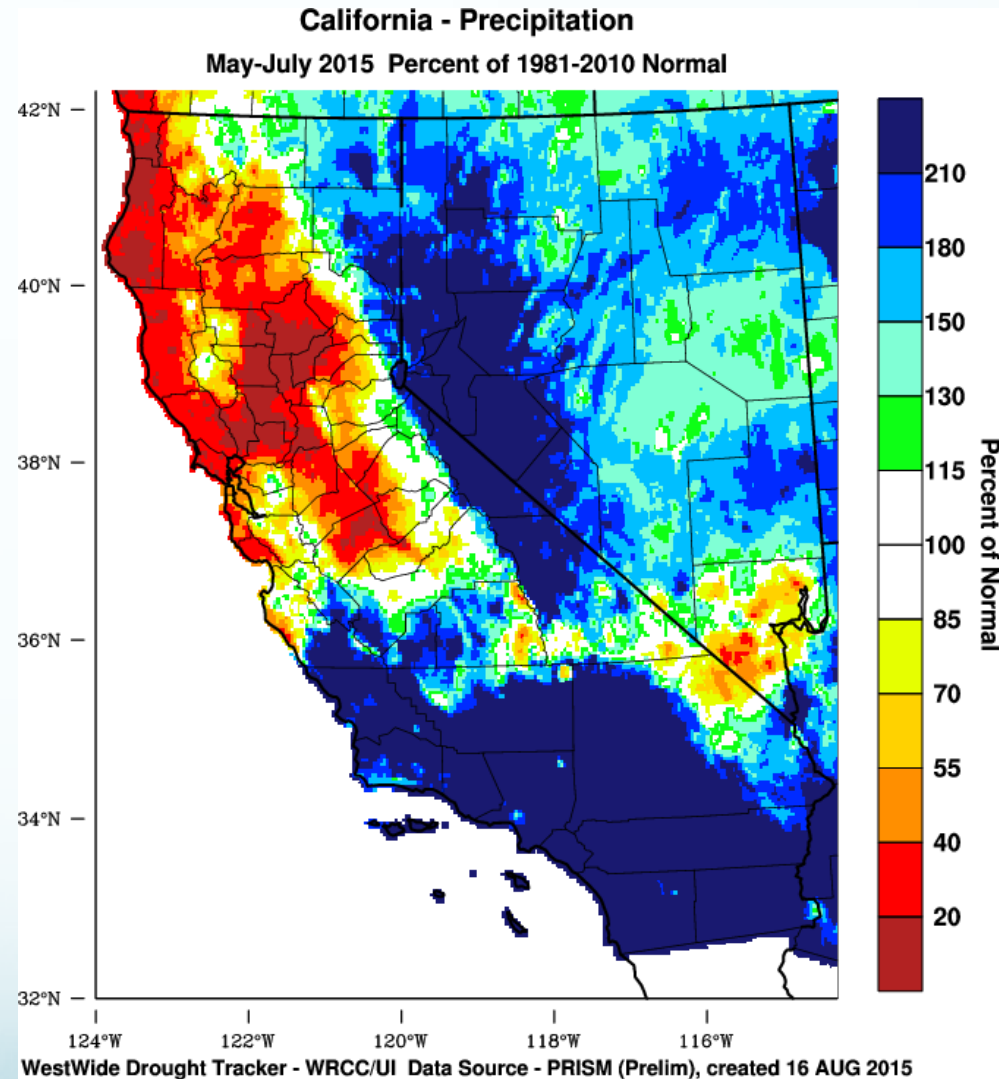
August 2015



WestWide Drought Tracker - WRCC/UI Data Source - PRISM (Prelim), created 6 SEP 2015

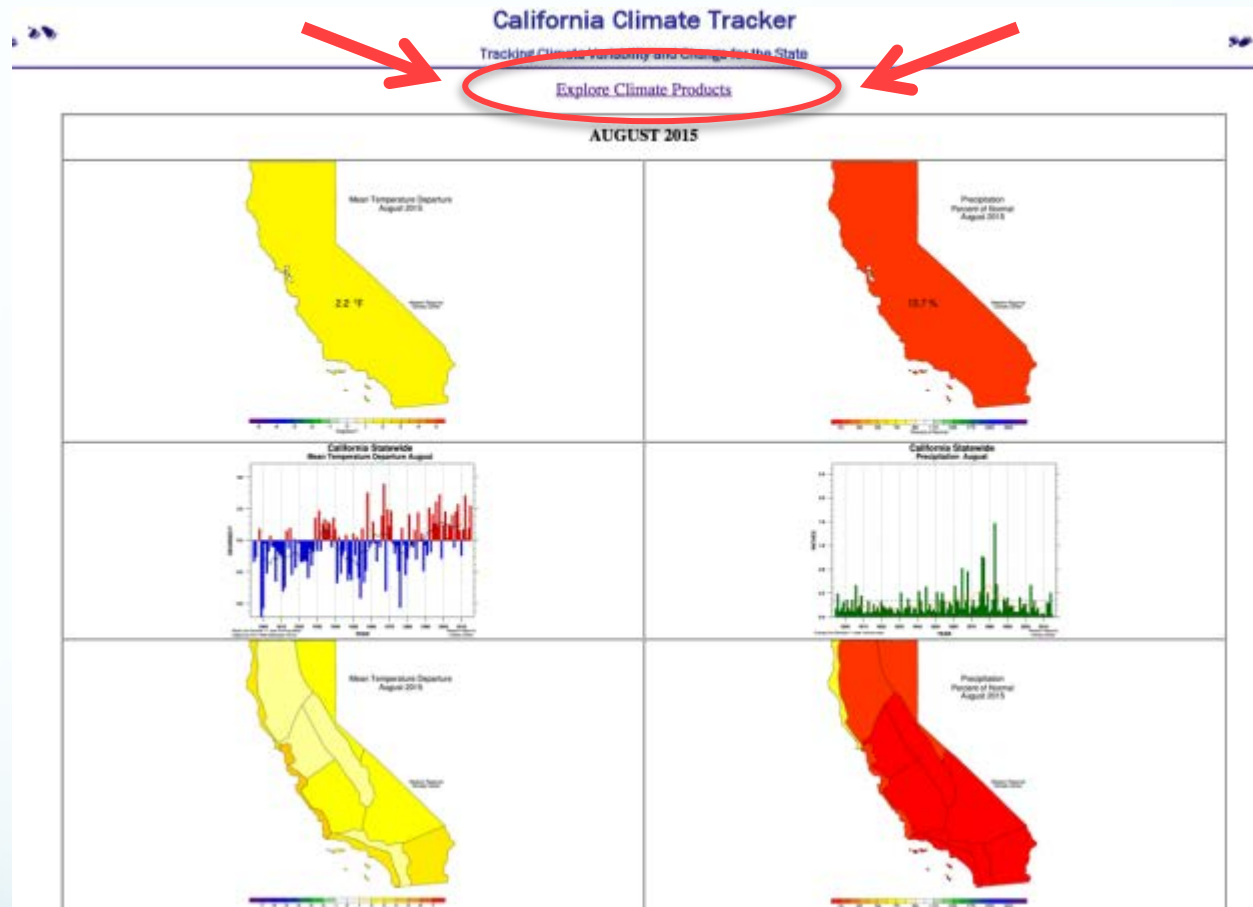
#1: West-wide Drought Tracker

- Drought variables:
 - Palmer Drought Severity Index (PDSI)
 - Standardized Precipitation Index (SPI)
 - Standardized Precipitation Evapotranspiration Index (SPEI)
- Climate Variables
 - Temperature, precipitation
 - % of normal, percentile

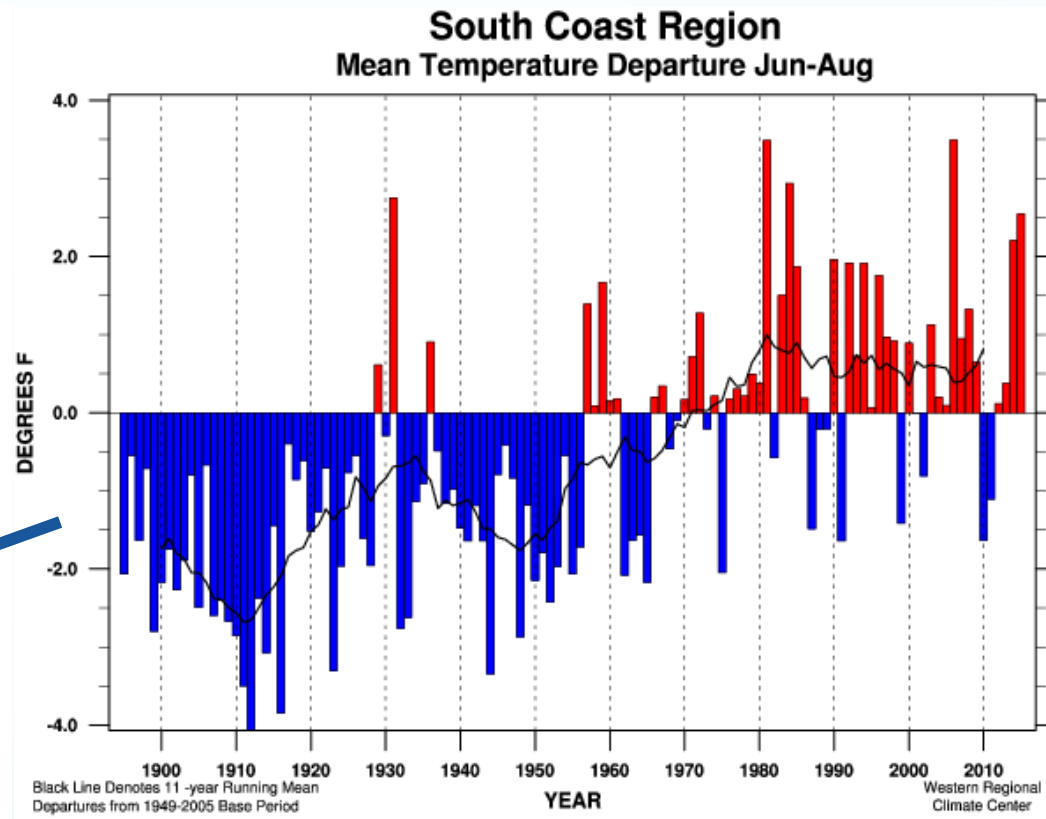
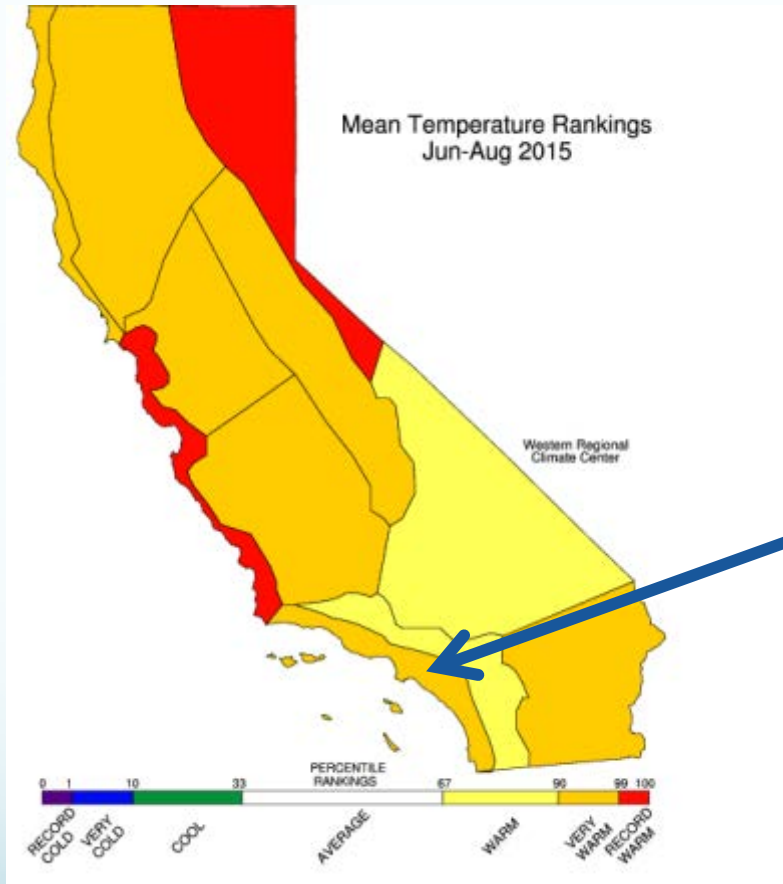


#2: California Climate Tracker

- Temperature, precipitation
- Monthly
- PRISM data
- Regions are specific to this tool– not equal to the 7 CA NCDC climate divisions



#2: California Climate Tracker



#3: Climate Outcome Likelihood

- Station-based
- Precipitation
- Likelihood of recovering a precipitation deficit during some future deficit based on historic record

CLIMATE OUTCOME LIKELIHOOD
Supporting California's climate-related decisions

Home About This Tool Data and Resources

Options Selection

What can this tool do? Determine the likelihood of recovering a precipitation deficit or reaching a precipitation threshold during some future period based on historic station data. [Read more](#)

Station (choose on map) ?
GHCN station selected:
Sacramento 5 ESE, 23271
*8 and 5 station indices coming soon!

Data Options: ?
☒ Analyze observed data in station record
☐ Analyze random daily samples from station record
☐ Analyze analog periods in station record

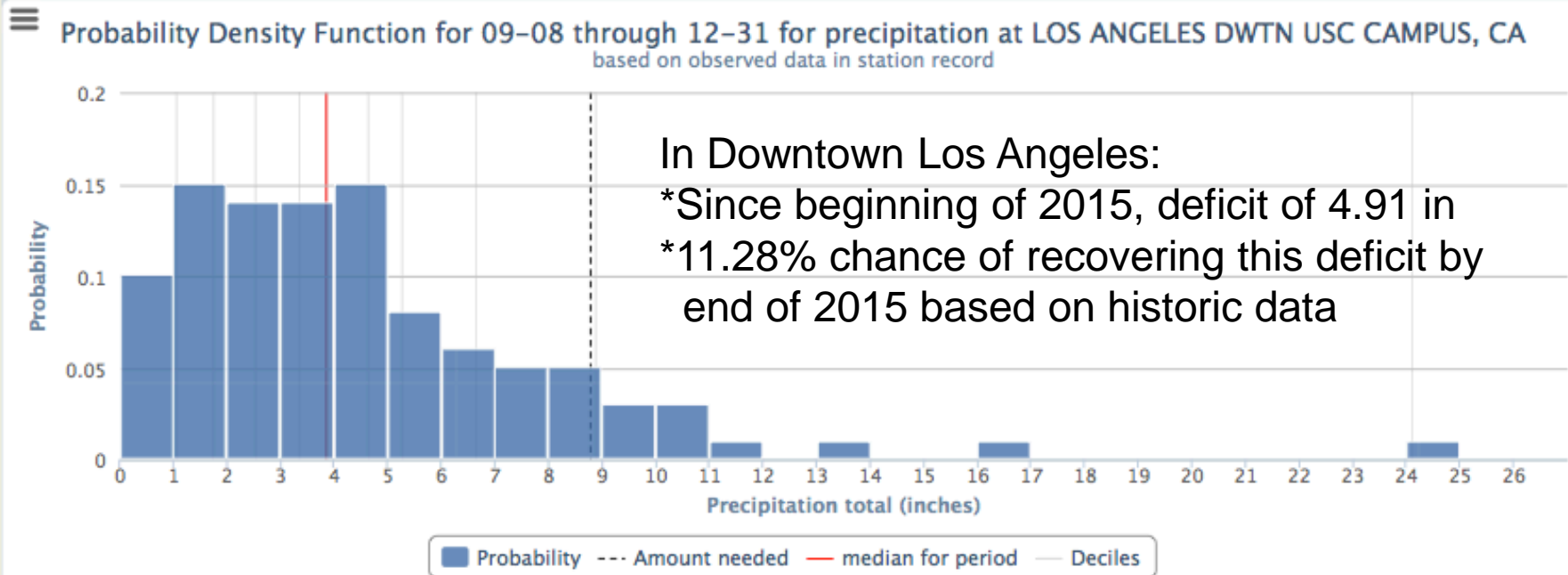
Date Range Selection: ?
Calculate observed precipitation
From: 2015-03-08
To: 2015-09-08
and likelihood of precipitation outcomes during recovery period
ending: 2016-03-08
Allow up to 5 missing days in each recovery period.

Graphics Options: ?
☒ Show probability density function graph
☐ Show cumulative distribution function graph
☐ Show both

Analysis Options: ?
☒ Amelioration of normal: likelihood of receiving observed period deficit from normal+normal during recovery period
☐ Amelioration of median: likelihood of receiving observed period deficit from median+median during recovery period
☐ Custom threshold: likelihood of receiving \geq 5 inches by end of recovery period

Show Analysis

#3: Climate Outcome Likelihood

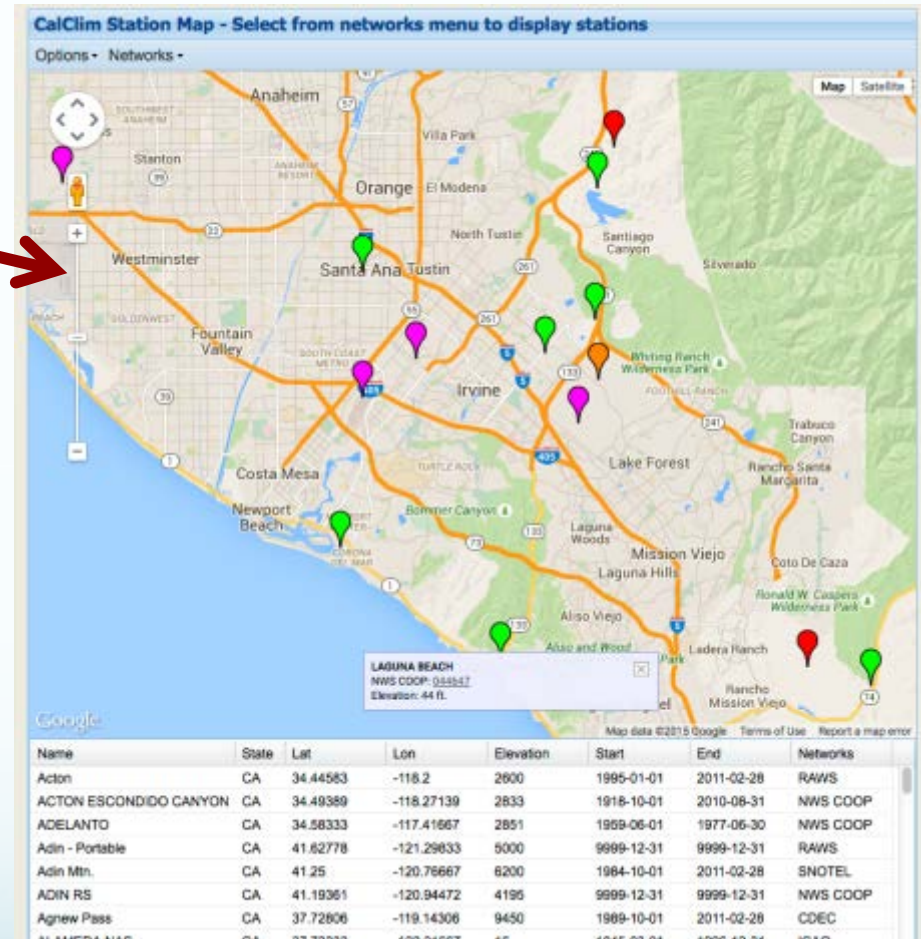
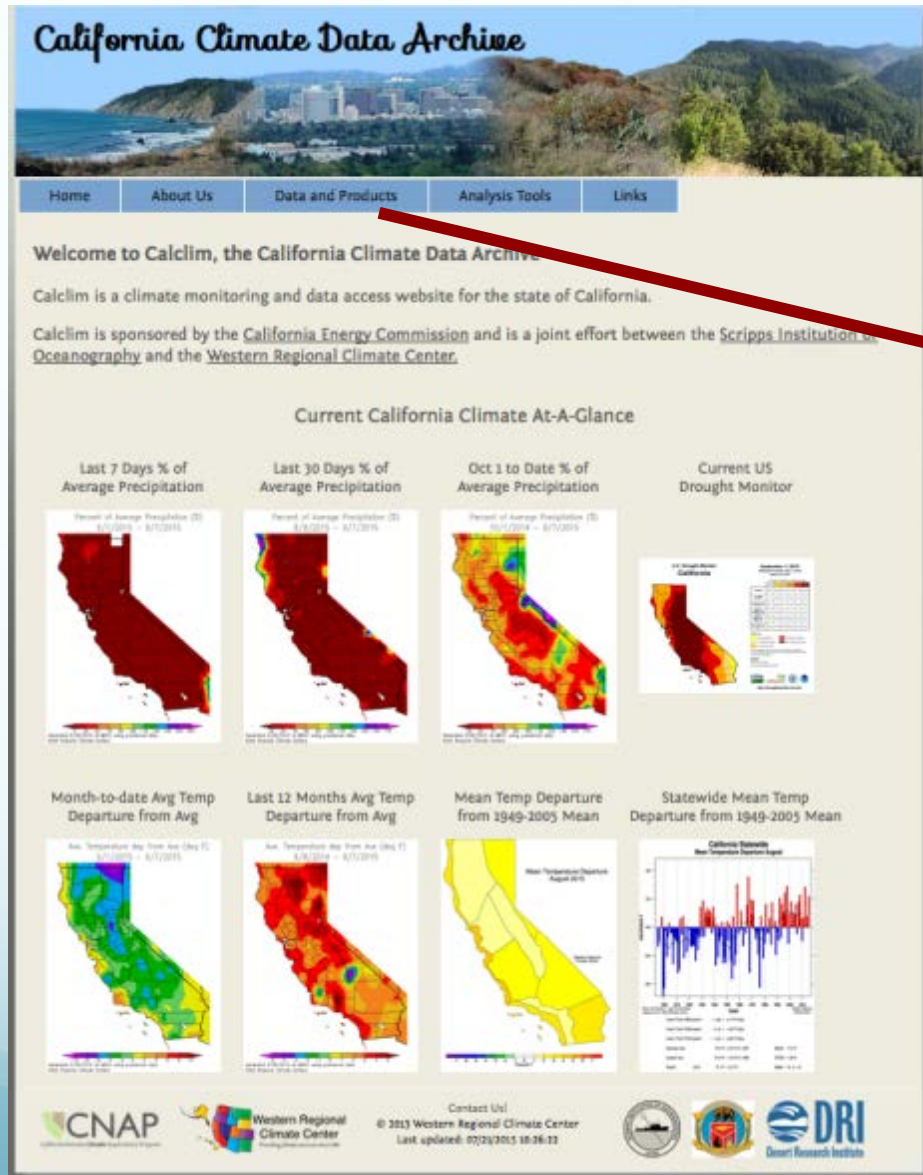


There is a 11.28% chance of reaching/exceeding median by end of recovery period based on 133 periods in station record.

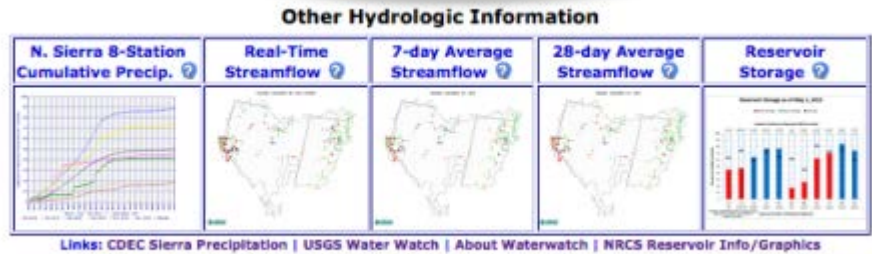
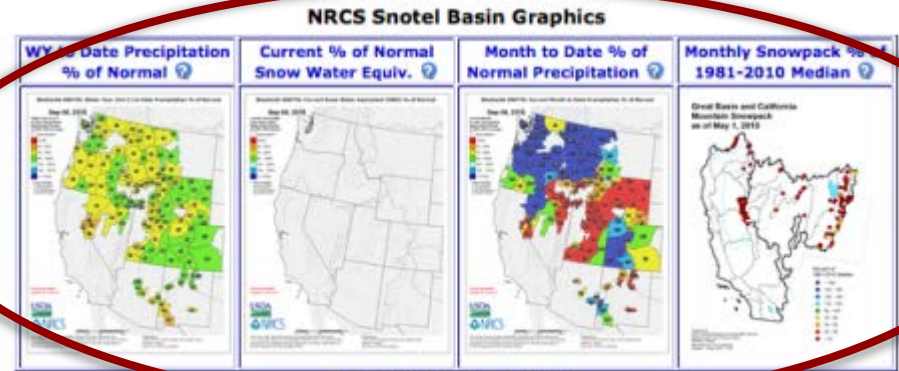
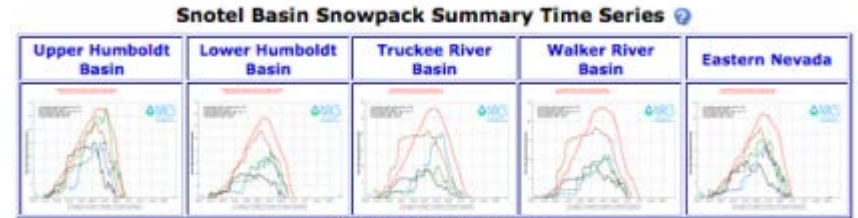
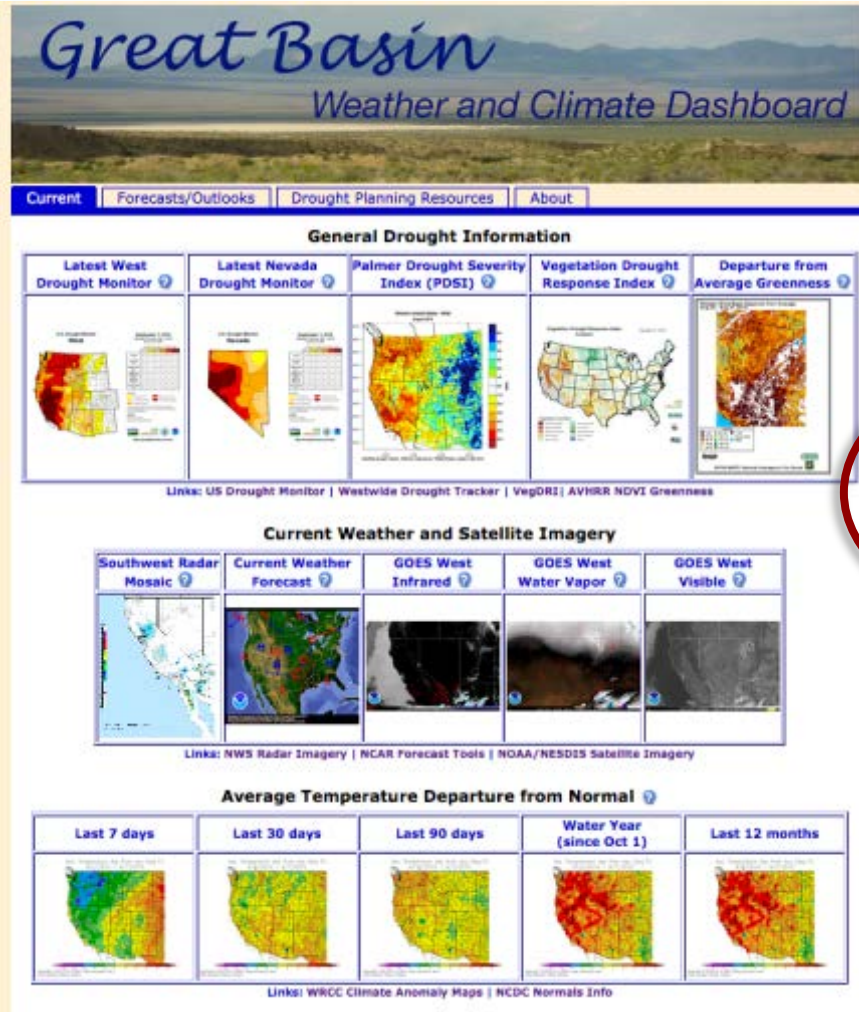
Powered by ACIS
Western Regional Climate Center

Analysis for: LOS ANGELES DWTN USC CAMPUS, CA ? How to interpret graph	
Precipitation accumulated from 2015-01-01 to 2015-09-07: 4.24 in. (0 missing days)	There is a deficit of 4.91 in. from median for this period. Median is 9.15 based on 127 periods in station record.
Amount needed to reach/exceed median by 2015-12-31: 8.78 in.	Likelihood of recovery between 2015-09-08 and 2015-12-31: 11.28%
133 of 138 records used based on station record 1877-07-01 to 2015-09-07	

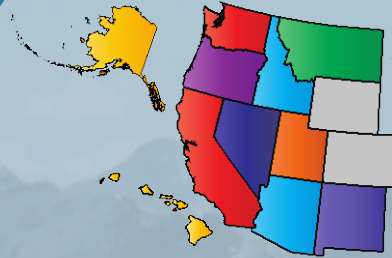
#4: Calclim



#5: Great Basin Dashboard



Thank you!



Western Regional
Climate Center

nina.oakley@dri.edu

wrcc.dri.edu



Follow WRCC on
social media!

High Sierra, March 2010
Photo: Ben Hatchett